

REMARKS

Claims 1, 2, 4 and 7-23 are currently pending in the application. Claims 11-18, 20, and 21 were withdrawn from consideration by the Examiner as being directed to a non-elected invention. Claims 1, 4, 8, and 23 are amended by this response. The above amendments do not add new matter to the application and are fully supported by the original disclosure. For example, support for the amendments is provided in the claims as originally filed, in the Figures, and at pages 3 and 4 of the specification. Reconsideration of the rejected claims in view of the above amendments and the following remarks is respectfully requested.

35 U.S.C. §103 Rejection

Claims 1, 2, 4, 7-10, 19, 22, and 23 are rejected under 35 U.S.C. §103(a) for being unpatentable over U.S. Pat. No. 5,098,762 ("Nakajima") in view of U.S. Pat. No. 6,696,167 ("Sean") and either of U.S. Pat. No. 4,486,115 ("Rionda") or European Pat. Appln. No. 0 481 941 ("EP 941"). This rejection is respectfully traversed.

To establish a *prima face* case of obviousness, all claim limitations must be taught or suggested by the prior art. *See, In re Royka*, 490 F.2d 981, 985, 180 USPQ 580, 583 (CCPA 1974); *see also, In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). If the prior art reference(s) do not teach or suggest all of the claim limitations, Office personnel must explain why the differences between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art (MPEP 2141).

The present invention relates to a building board for use as a ceiling or wall element. Independent claim 1 has been amended to recite, in pertinent part, *a plurality of orientated strand boards (OSBs) which are disposed side by side and are bonded together in multiple layers ... at least one nail plate disposed between respectively two layers lying one on top of the other,*

and at least one plastic mat disposed between two layers lying one on top of the other.

Applicants respectfully submit that no proper combination of the applied references discloses or suggests all of the features of the claimed invention.

The Examiner asserts that Nakajima discloses a plurality of boards disposed side by side and bonded together to form multiple layers. The Examiner also contends that Sean teaches equivalence between wood and OSB boards, and that it would have been obvious to use OSB boards in Nakajima in view of Sean. Applicants respectfully disagree.

Nakajima discloses plywood composed of layers, each layer comprising a plurality of divided wood pieces 4. Nakajima repeatedly states that an object of the invention is to provide a smooth-surfaced plywood. For example, Nakajima states:

Preferably, the uppermost veneer layer comprises the plurality of divided wood pieces with the clearance formed between the divided wood pieces, and at least the uppermost layer has a filler filled in the clearance formed between the divided wood pieces thereof. The plywood can then be made smooth-surfaced. The smooth-surfaced plywood is very convenient for some uses.

(Nakajima, col. 1, lines 47-55) [emphasis added].

...

According to another preferred embodiment, at least the uppermost of the uppermost veneer layer and the lowermost veneer layer is an undivided layer, and the layer next to the undivided layer comprises the plurality of divided wood pieces with the clearance formed between the divided wood pieces, at least the next layer having a filler filled in the clearance. The undivided layer can then be adhered to the next layer with ease effectively and given a smooth surface finish.

(Nakajima, paragraph spanning cols. 1-2) [emphasis added].

Contrary to the Examiner's assertion, it would not have been obvious to modify Nakajima's wood pieces 4 with OSB. This is because OSB has a rough surface, such that the proposed modification would detract from Nakajima's stated object of having a smooth surface. According to MPEP 2143.01, if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation

to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). The combination of Nakajima and Sean proposed by the Examiner would leave the Nakajima plywood with a rough surface (due to the OSB), thereby making the Nakajima system inoperable for its intended use (i.e., having a smooth surface). Therefore, one of ordinary skill in the art would not have been prompted to modify Nakajima by replacing the boards 4 with OSB.

The Examiner acknowledges that neither Nakajima nor Sean discloses a *nail plate*. Nakajima shows multiple boards bonded together to form layers, but does not disclose bonding with a nail plate. Sean does not disclose a plurality of boards bonded together in layers, and consequently does not disclose any structure for bonding layers together. The Examiner asserts that Rionda and EP 941 each disclose the use of nail plates to join together two layers of material by placing the nail plates between respective layers. The Examiner concludes that it would have been obvious to use nail plates between the layers of Nakajima boards to provide a strong joint that is stable and resistant to shear forces. Applicants disagree.

As discussed above, Nakajima discloses plywood. As is understood by one having ordinary skill in the art, plywood comprises pieces of wood that are glued together. For example, the online Merriam-Webster Online Dictionary defines plywood as:

a structural material consisting of sheets of wood glued or cemented together with the grains of adjacent layers arranged at right angles or at a wide angle.¹

Moreover, the online American Heritage Dictionary defines plywood as:

A structural material made of layers of wood glued together, usually with the grains of adjoining layers at right angles to each other.²

¹ <http://www.merriam-webster.com/dictionary/plywood>

² <http://www.bartleby.com/61/73/P0387300.html>

According to the above-noted dictionary definitions, the ordinary meaning of the term “plywood” includes layers of wood glued together. On the other hand, the Examiner’s proposed modification would use a nail plate instead of glue to bond Nakajima’s boards 4 together. However, if a nail plate were used to bond Nakajima’s boards 4, then the resulting structure would not be plywood. As noted above, according to MPEP 2143.01, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). The combination of Nakajima and Rionda or EP 941 proposed by the Examiner would change the Nakajima system from plywood to something other than plywood, thus changing the intended use and/or principle of operation of the Nakajima invention. Therefore, one having ordinary skill in the art would not have been prompted to modify Nakajima by using a nail plate to bond boards 4 together.

Moreover, Applicants submit that one of ordinary skill in the art would not have been motivated to use a nail plate with Nakajima because using a nail plate would add weight to the Nakajima board. This would be contrary to the purpose of Nakajima. Specifically, Nakajima discloses that the plywood of his invention is “convenient to transport and is usable for applications where lightweightness is desirable” (col. 1, lines 40-45) [emphasis added] and as a “base material for decorative uses” (col. 1, lines 40-45) [emphasis added].

Rionda, on the other hand, teaches the use of nail plates in structural member, particularly for “[t]he joinder of structural load bearing wooden members” (col. 1, lines 5-10) [emphasis added]. Using a nail plate in Nakajima, as proposed by the Examiner, would add weight to the Nakajima board, thereby detracting from Nakajima’s object of being lightweight. Moreover, using a nail plate designed for structural members with a lightweight, decorative (i.e., not

structural) plywood would not have produced results that were predictable to one of ordinary skill in the art. Therefore, one having ordinary skill in the art would not have been prompted to modify Nakajima by using a nail plate to bond boards 4 together.

Furthermore, none of the applied art discloses or suggests *at least one plastic mat disposed between two layers lying one on top of the other*, as further recited in claim 1, as amended by this response. With regard to previous claims 4 and 23, which recited a plastic mat, the Examiner correctly notes that Nakajima discloses the use of an interposed material, e.g., a non-woven fabric, between at least two of the layers (see, e.g., lines 1-18 of col. 3, and lines 39-43 of col. 4 of Nakajima). The Examiner asserts that it would have been obvious to select any well-known material, such as a plastic fabric, as the fabric layer in Nakajima since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. Applicants respectfully disagree.

Applicants acknowledge that Nakajima discloses an interposed material that may be a non-woven fabric. However, Nakajima does not disclose or suggest the use of a plastic mat between layers. Nor has the Examiner identified any prior art reference that discloses or suggests a plastic mat disposed between layers of boards disposed side by side. Therefore, the applied references fail to disclose or suggest all of the features of the claimed invention.

Furthermore, Applicants submit that the Examiner's assertion of "design choice" is insufficient to establish a *prima facie* case of obviousness because it is not factually supported and because it is conclusory. It is well established that the examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness (MPEP §2142). Rejections based on §103 must rest on a factual basis with these facts being interpreted without hindsight reconstruction of the invention from the prior art. The Office may not, because of doubt that the

invention is patentable, resort to speculation, unfounded assumption or hindsight reconstruction to supply deficiencies in the factual basis for the rejection. *See, In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 177 (CCPA 1967), *cert. denied*, 389 U.S. 1057 (1968). Moreover, as mandated by the Supreme Court and subsequently adopted in MPEP 2142, conclusory rejections are improper:

The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, ___, 82 USPQ2d 1385, 1396 (2007) noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). See also *KSR*, 550 U.S. at ___, 82 USPQ2d at 1396 (quoting Federal Circuit statement with approval).

In this rejection, the Examiner does not provide any basis in fact or articulated reasoning to support the conclusion that it would have been obvious to use a plastic mat as an equivalent to the fabric disclosed by Nakajima, or that that one of ordinary skill in the art would have recognized that the results of the replacing Nakajima's fabric with a plastic mat were predictable. Instead, the Examiner merely concludes that it would have been obvious through "design choice" to replace Nakajima's fabric with a plastic mat. This type of factually unsupported and conclusory rejection is clearly improper in light of *KSR*. In any event, using different materials in the application of the board of the present invention has consequences. It is very important to select materials for different purposes, and the use of a plastic mat was not a design choice alone. Applicants have found that the use of a plastic mat in the inventive board provides certain preferred properties for sound-proofness. There is nothing in Nakajima to conclude that a fabric could be exchanged with a plastic mat to achieve a predictable result.

Applicants submit that for the above-discussed reasons, no proper combination of the applied art discloses or suggests the combination of features recited in claim 1. Claims 2, 4, 7-10, 19, 22, and 23 depend from independent claim 1, and are allowable at least for the same reasons as claim 1. Moreover, as discussed below, the applied art does not disclose or suggest many of the features recited in the dependent claims.

Claim 2

Claim 2 depends from claim 1 and additionally recites *the layers of a plurality of boards are additionally connected to one another by mechanical connecting means*. For example, as described at lines 5-6 of page 7 of Applicants' specification, in addition to the nail plate, the individual layers can also be nailed, screwed, or clamped together. The Examiner takes official notice that it is well known to use mechanical means such as screws, nails, etc., to attach together layers of material. However, this statement of official notice fails to address the recited combination of a nail plate and mechanical connecting means. Applicants submit that the applied art does not disclose or suggest *at least one nail plate disposed between respectively two layers lying one on top of the other and the layers of a plurality of boards are additionally connected to one another by mechanical connecting means*.

For example, Nakajima does not disclose either a nail plate or other mechanical connecting means, much less a combination of both a nail plate and mechanical connecting means. Rionda, and EP 941, relied on the by the Examiner to teach a nail plate between layers, only disclose using a nail plate, and do not disclose an additional mechanical connecting means. In fact, Rionda explicitly teaches away from using additional mechanical connecting means. More specifically, Rionda states:

The joinder of structural load bearing wooden members has been significantly advanced by the advent of structural wooden joints which are connected solely by means of metal plates having nail-like teeth struck therefrom

and embedded into the wooden members, such as illustrated in Jureit U.S. Pat. No. 2,877,520. Plates of this type wherein the teeth serve as the only means holding the plates onto the wooden members and the wooden members in adjoining relation have proved eminently successful particularly in the building industry. Various arrangements and configurations of teeth in the plates have been proposed and constructed in the past for specific purposes and to solve particular problems associated with utilization of connector plates of this type.

(Rionda, col. 1, lines 10-24) [emphasis added].

Thus, not only do the references fail to disclose or suggest an additional mechanical connecting means, Rionda actually teaches away from the recited a combination. A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984), MPEP 2141.02. Accordingly, Applicants submit that no *proper* combination of the applied art discloses or suggests the combination of features recited in claim 2.

In any event, as the Examiner is taking official notice, Applicants request that the Examiner provide a reference to show such features. MPEP §2144.03 provides the following guidance regarding when it is appropriate to take Official Notice without documentary evidence to support the Examiner's conclusion:

Official notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known. As noted by the court in *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970), the notice of facts beyond the record which may be taken by the examiner must be "capable of such instant and unquestionable demonstration as to defy dispute" (citing *In re Knapp Monarch Co.*, 296 F.2d 230, 132 USPQ 6 (CCPA 1961)).

...

It would not be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known. For example, assertions of technical facts in the areas of esoteric technology or specific knowledge of the prior art must always be supported by citation to some

reference work recognized as standard in the pertinent art. *In re Ahlert*, 424 F.2d at 1091, 165 USPQ at 420-21.

Applicants traverse the Examiner's assertion of Official Notice with regard to claim 2. Accordingly, Applicants request the Examiner withdraw the rejection or provide documentary evidence to factually support the rejection.

Claim 8

Claim 8 depends indirectly from claim 2 and additionally recites *the plurality of OSBs have a thickness of 100 mm to 250 mm, the plurality of OSBs have a length of 4 m to 6 m, and the interspaces are about 20 mm wide*. Applicants submit that the base reference (i.e., Nakajima) fails to disclose the following features that are present in claim 8: (i) oriented strand board; (ii) a nail plate; (iii) a plastic mat; (iv) mechanical connecting means; (v) the plurality of OSBs have a thickness of 100 mm to 250 mm; (vi) the plurality of OSBs have a length of 4 m to 6 m (vii) and, the interspaces are about 20 mm wide.

To arrive at the combination of features recited in claim 8, Nakajima would have to be modified in at least seven different ways. Applicants submit that such extensive modification of Nakajima would not have been obvious at least for the reasons discussed *supra*. Applicants further submit that a seven-way modification of Nakajima in view of Sean, Rionda, EP 941, design choice, and official notice would necessarily be an example of blueprinting based on an improper use of hindsight reconstruction.

The Court of Appeals for the Federal Circuit has repeatedly cautioned against employing hindsight by using a patent applicant's disclosure as a blueprint to reconstruct the claimed invention from the isolated teachings of the prior art. *See, e.g., Grain Processing Corp. v. American Maize-Prods. Co.*, 840 F.2d 902, 907, 5 USPQ2d 1788, 1792 (Fed. Cir. 1988). Moreover, it is established law that one "cannot use hindsight reconstruction to pick and choose

among isolated disclosures in the prior art to deprecate the claimed invention.” *Ecolochem, Inc. v. Southern Calif. Edison Co.*, 227 F.3d 1361 (Fed. Cir. 2000), (citing *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1780, 1783 (Fed. Cir. 1988)).

Accordingly, Applicants respectfully request that the §103(a) rejection over claims 1, 2, 4, 7-10, 19, 22, and 23 be withdrawn.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants submit that all of the claims are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue. The Examiner is invited to contact the undersigned at the telephone number listed below, if needed. Applicants hereby make a written conditional petition for extension of time, if required. Please charge any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 19-0089.

Respectfully submitted,
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